



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

*[Handwritten signature]*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,429	01/21/2004	Heng-Chuan Wang	09405.0001-00000	5189

22852 7590 03/03/2006

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER  
LLP  
901 NEW YORK AVENUE, NW  
WASHINGTON, DC 20001-4413

EXAMINER

AFREMOVA, VERA

ART UNIT PAPER NUMBER

1651

DATE MAILED: 03/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/762,429

Applicant(s)

WANG ET AL.

Examiner

Vera Afremova

Art Unit

1651

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-57 is/are pending in the application.
- 4a) Of the above claim(s) 1-19 and 26-57 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 20-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Election/Restrictions***

Applicant's election with traverse of the Group III (claims 20-25), drawn to a flocculant composition comprising a soybean protein, in the reply filed on 1/20/2006 is acknowledged. The traversal is on the ground(s) that there is no serious burden in searching and examining all groups of claims. This is not found persuasive because different groups of claims are drawn to products having different scope as claimed and, thus, the references that would be applied to one group of claims would not necessarily anticipate or render obvious the other group(s). Moreover, the elected group of claims does not recite any *Bacillus* cells and the claims that recite *Bacillus* cells were not elected by applicants. Furthermore, the literature search, particularly relevant in this art, is not co-extensive and is much more important in evaluating the burden of search. Burden in examining materially different groups having materially different issues also exists. Clearly different searches and issues are involved with each group. For these reasons, the restriction requirement is deemed proper and is adhered to. The restriction requirement is hereby made FINAL.

Claims 1-19 and 26-57 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to nonelected groups of inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 1/20/2006.

Claims 20-25 are under examination in the instant office action.

***Information Disclosure Statement***

The information disclosure statement filed 8/23/2004 fails to comply with 37 CFR 1.98(a)(1), which requires the following: (1) **a list** of all patents, publications, applications, or other information submitted for consideration by the Office; (2) U.S. patents and U.S. patent application publications listed in a section separately from citations of other documents; (3) **the application number of the instant application** in which the information disclosure statement is being submitted on each page of the list; (4) a column that provides a blank space next to each document to be considered, for the examiner's initials; and (5) a heading that clearly indicates that the list is an information disclosure statement. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered.

The information disclosure statement filed 8/23/2004 fails to comply with 37 CFR 1.98(a)(2), which **requires a legible copy of each** cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

The information disclosure statement filed 8/23/2004 contains Form 1449 that belongs to a different application. No copies of references were provided.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 20-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Atlas R. M. (Handbook of Microbiological Media. CRC Press, Inc. 1993. page 820).

Claims are directed to a composition comprising a soybean protein in amounts at least 15 g/L or 15-120 g/L. Some claims are further drawn to the soybean protein that has been subjected to thermal treatments at 121°C at 1.5 atm for 20 minutes.

The reference by Atlas R. M. discloses a bacterial medium composition comprising a soybean protein in amounts at least 15 g/L or 15-120 g/L. For example: Soy Peptone Broth with 20 g/L of papaic digest of soybean meal that is a “soybean protein” preparation. Another example: Soybean Agar that is made with 100 g/L of soybeans that is a “soybean protein” product. The soybean protein is subjected to sterilization by thermal treatment such as exposure to 121°C at 15 psi (1 atm) for 15 minutes. The claimed soybean protein subjected to thermal treatments is a product-by-process type of claim. The product-by-process claims are not limited to the manipulations of the recited steps, only to the structure of the final product obtained. MPEP 2113. The final product as disclosed is sterilized by thermal treatment. It is sterile and suitable for culturing microbes including *Bacillus* and, thus, it is the same as intended for the applicants’ composition with soybean proteins when claims are read in the light of specification, for example: table 6. Therefore, the cited reference anticipates the claims invention.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 4,105,804 (Terui et al.) and US 4,059,572 (Nakamura et al.) taken with Talaro et al. (Foundations in Microbiology. Wm. C. Brown Publishers. 1993, pages 272-274.).

Claims are directed to a flocculant composition comprising a soybean protein in amounts at least 15 g/L or 15-120 g/L. Some claims are further drawn to the soybean protein that has been subjected to thermal treatments at 121°C at 1.5 atm for 20 minutes.

The cited patents US 4,105,804 (Terui et al.) and US 4,059,572 (Nakamura et al.) disclose flocculant compositions comprising a soybean protein. In particular compositions the amounts of soybean proteins are less than 15 g/L as disclosed. However, both reference demonstrate that flocculation effect of soybean protein preparation is in direct relationship with concentration. For example: see US 4,105,804 (Terui et al.) teaches the use of soybean proteins for separation of bacterial cells from a culture broth and it demonstrates that amounts of precipitated bacterial cells increase with the increases of amounts of soybean powder added (entire document including col. 3, lines 15-18). The cited US 4,059,572 (Nakamura et al.) discloses determination of flocculation activity of various compounds including soybean proteins and it demonstrate that sedimentation rate or flocculation activity of soybean protein directly depends on concentration (col. 5, lines 35; col. 4, lines 55-57 and col.3, lines 31-33).

Art Unit: 1651

The cited patents US 4,105,804 (Terui et al.) and US 4,059,572 (Nakamura et al.) are silent about thermal treatment of soybean proteins.

However, the reference by Talaro et al. teaches that the use of thermal treatment for sterilization and it discloses efficient pressure-temperature-time combinations depending on contaminants, substrate and the use of moist or dry heat (tables 9.2, 9.3 and 9.4). The disclosed ranges for pressure-temperature-time combinations include the presently claimed parameters.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to increase amounts of soybean proteins in flocculant compositions of US 4,105,804 (Terui et al.) and US 4,059,572 (Nakamura et al) with a reasonable expectation of success in increasing flocculation activity of soybean proteins as adequately suggested by of US 4,105,804 (Terui et al.) and US 4,059,572 (Nakamura et al) because flocculation effect of soybean proteins is in direct relationship with concentration as demonstrated by US 4,105,804 (Terui et al.) and US 4,059,572 (Nakamura et al). One of skill in the art would have been motivated to subject soybean proteins to sterilization by thermal treatment for the expected benefits in avoiding growth of undesirable microorganisms and/or for the reasons of food safety. Thus, the claimed invention as a whole was clearly *prima facie* obvious, especially in the absence of evidence to the contrary.

The claimed subject matter fails to patentably distinguish over the state art as represented by the cited references. Therefore, the claims are properly rejected under 35 USC § 103.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vera Afremova whose telephone number is (571) 272-0914. The examiner can normally be reached from Monday to Friday from 9.30 am to 6.00 pm.

Art Unit: 1651

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Wityshyn can be reached at (571) 272-0926.

The fax phone number for the TC 1600 where this application or proceeding is assigned is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology center 1600, telephone number is (571) 272-1600.

Vera Afremova

AU 1651

February 28, 2006

A handwritten signature in black ink, appearing to read 'V. Afremova', with a long horizontal flourish extending to the right.

VERA AFREMOVA  
PRIMARY EXAMINER